

CLAIMS

1. A method for treating a subject for an inflammatory condition which results from eosinophil accumulation which comprises generating an active immune
5 response in the patient comprising autoantibodies to eotaxin and IL-5.

2. A method of treating a subject for a condition which results from asthma, allergy or allergic disease comprising generating an immune response in the subject to eotaxin and IL-5.

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3. An immunogenic composition comprising eotaxin or a peptide fragment thereof and IL-5 or a peptide fragment thereof coupled to an immunogenic protein carrier.

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4. An immunogenic composition comprising a T-cell epitope, an epitope derived from IL-5 and an epitope derived from eotaxin .

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5. An immunogenic composition for the treatment of asthma, allergy or allergic disease comprising eotaxin or a portion thereof and IL-5 or a portion thereof conjugated to an immunogenic carrier.

6. A method of producing the composition of claim 3, 4 or 5 which comprises conjugating the eotaxin or a portion thereof and the IL-5 or a portion thereof to the immunogenic carrier.

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7. A method of treating a disorder involving an immunomodulatory pathway comprising multiple cytokines the method comprising actively immunizing a subject against two or more cytokines in the pathway so as to elicit autoantibodies in the subject which can bind to and modulate the activities of the cytokines.

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8. The method of claim 7 wherein the pathway is the Th-2 pathway.

9. The method of claim 8 wherein the subject is actively immunized against IL-5 and eotaxin.

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10. A method for treating a subject for a condition mediated by eotaxin, which comprises generating an active immune response in the subject to eotaxin and at least one cytokine selected from the group consisting of eotaxin-2, eotaxin-3, IL-4, IL-5, IL-9 or IL-13.

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11. The method of claim 10 wherein the condition mediated by eotaxin is asthma, allergy or allergic disease.

12. The immunogenic composition of claim 5 comprising at least one peptide sequence selected from the peptide sequences set forth in SEQ ID NOs 1-38, 42-61 and 117-121 and 130-132 and at least one peptide sequence selected from the peptide sequences set forth in SEQ ID NOs 62-116 and 122-123.

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13. A method of ameliorating eosinophilia in a human subject which comprises downregulating eotaxin and concurrently down regulating a cytokine selected from the group consisting of eotaxin-2, eotaxin-3, IL-4, IL-5, IL-9, or IL-13.

5 14. A multivalent immunogenic composition for actively immunizing a subject to treat a Th-2 immune disorder comprising an immunogenic carrier conjugated to a plurality of peptide epitopes derived from two or more Th-2 cytokines.

10 15. The composition of claim 14 wherein the Th-2 cytokines are selected from the group consisting of eotaxin-1, eotaxin-2, eotaxin-3, IL-4, IL-5, IL-9 or IL-13.